

MILFORD HARBOR  
CONNECTICUT  
SURVEY  
(REVIEW OF REPORTS)

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS  
WALTHAM, MASS.

September 20, 1961

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS  
424 Trapelo Road  
Waltham 54, Mass.

20 September 1961

NEDGW

SUBJECT: Survey (Review of Reports) Milford Harbor, Milford,  
Connecticut

TO: Chief of Engineers  
Department of the Army  
Washington, D. C.  
ATTN: ENGCW-P

SYLLABUS

The survey study of Milford Harbor indicates that improvement of the navigational facilities to provide for an additional 8.5 acres of anchorage, 6 feet deep, for recreational craft at Milford Harbor, as desired by local interests is warranted. On the basis of a report submitted 4 August 1960 to the Chief of Engineers, this improvement was duly authorized on 13 February 1961 by the Chief of Engineers under the authority of Section 107 of the River and Harbor Act of 1960. Also as a result of the study, the Chief of Engineers, on 10 April 1961, re-activated the uncompleted 6-acre East Basin, but to a depth of 8 feet instead of the authorized (1902) 10 feet. The two-foot increment is to remain in inactive status. After consideration of all desired improvements, and of the above described subsequent actions, the Division Engineer finds that no authorization by Congress of any modification of the Federal navigation project for Milford Harbor, Connecticut is necessary at this time.

1. AUTHORIZATION AND PURPOSE. - This report is submitted in compliance with a resolution adopted 30 July 1954 by the Committee on Public Works of the United States Senate, which reads as follows:

"RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE THAT, THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS CREATED UNDER SECTION 3 OF RIVER AND HARBOR ACT, APPROVED JUNE 13, 1902, BE, AND IS HEREBY REQUESTED TO REVIEW THE REPORT OF THE CHIEF OF ENGINEERS ON MILFORD

HARBOR, CONNECTICUT, PUBLISHED AS HOUSE DOCUMENT  
NUMBERED 77, SEVENTY-FIFTH CONGRESS, FIRST SESSION,  
AND OTHER REPORTS, WITH A VIEW TO DETERMINING  
WHETHER THE EXISTING PROJECT SHOULD BE MODIFIED IN  
ANY WAY AT THIS TIME."

2. A review of report of survey scope was assigned to the New England Division by the Chief of Engineers on 11 August 1954. A study has been made to determine the adequacy of the present Federal navigation project and the need for additional improvement.

3. DESCRIPTION. - Milford Harbor, located on the north shore of Long Island Sound about 8 miles west of New Haven Harbor, comprises an outer bay about a mile square, lying between Charles Island and Welch's Point, and the tidal and navigable portion of Wepawaug River which extends nearly a mile from the northeast corner of the outer bay.

4. The existing project, authorized by River and Harbor Acts of 1874, 1879, 1902, and 1937, provides for:

a. A channel 10 feet deep, 100 feet wide through the lower harbor to Merwin's Wharf, thence 8 feet deep, 100 feet wide, widened at the upper end, to a point 400 feet above the City Wharf, a total distance of about 1.2 miles.

b. An anchorage basin west of the channel inside of the entrance 2,000 feet long and 7.8 acres in area, 10 feet deep in the lower 600 feet (1.9 acres) and 8 feet deep above.

c. An anchorage basin, 10 feet deep and about 6 acres in area, east of the channel and north of the east jetty.

d. Two riprap jetties at the entrance of the river, the east jetty being 510 feet long and with a height of 4 feet above mean high water and the west jetty being 250 feet long with a height of one foot above mean high water.

5. The existing project is complete except for the 10-foot east anchorage basin. Project costs have been \$46,400 for the existing project through June 1961. In addition, \$11,400 was expended from contributed funds for new work. Maintenance costs have been \$167,000. The latest (1961) estimate for annual cost of maintenance is \$7,000.

6. The East Anchorage Basin was originally authorized by the River and Harbor Act of 2 June 1902 and provided for dredging 6 acres, 10 feet deep in the interests of commercial navigation with the entire cost to be borne by the Federal Government. Construction was started

in 1905 and approximately 2-1/3 acres were completed to 10-foot depth when rock was reported to have been encountered and further improvement was considered impractical. The East Basin was later placed on inactive status. Consideration of the desire expressed at the public hearing held in 1955 for completion of the East Basin indicated that the uncompleted 3-2/3 acres were needed and economically justified, but to a depth of 8 feet instead of the authorized 10 feet in view of the present navigation needs. On 10 April 1961, the Chief of Engineers re-classified the dredging of the East Basin from the "inactive" to the "active" category to a depth of 8 feet. The 2-foot increment to the 10-foot depth is to be retained in the "inactive" category. The present estimated cost to complete the East Basin to a depth of 8 feet is \$150,000, including \$25,000 for maintenance of the previously improved 2-1/3 acres to the reduced depth of 8 feet. No maintenance in the 2-1/3 acres has been performed since construction in 1905.

7. DESIRED IMPROVEMENTS. - At a public hearing held at Milford, Connecticut on 3 November 1955, local interests expressed a desire for the following:

- a. Completion of the East Anchorage Basin.
- b. Dredging of additional anchorage for recreational boats.
- c. Raising the jetties to shelter the harbor.
- d. Construction of a breakwater from Charles Island to Welch's Point to shelter the outer harbor.
- e. Dredging the Fish and Wildlife Service basin.
- f. Dredging anchorage basin for pleasure craft in Gulf Pond.

8. Studies made for this survey report indicated that modification of the existing project for Milford Harbor was warranted to provide an additional 8.5 acres of anchorage, 6 feet deep, on the west side of the inner harbor south of the City Wharf. This improvement was found to be eligible for accomplishment as a small navigation project under the special continuing authority provided by Section 107 of the 1960 River and Harbor Act. Accordingly, such an improvement of Milford Harbor, Connecticut, was approved for accomplishment under this authority by the Chief of Engineers on 13 February 1961, to be constructed when Section 107 funds are available. The estimated Federal project cost (1961) is \$107,000, including \$7,000 for pre-authorization studies. The following local cooperation would be required:

a. A cash contribution equal to 50 percent of the construction cost in view of the special benefits to recreational craft. (Estimated cost of local contribution (1961) is \$100,000).

b. Provide without cost to the United States, all lands, easements, and rights-of-way required for construction of the project including necessary spoil disposal areas (with necessary retaining dikes, bulkheads, or embankments).

c. Hold and save the United States free from damages that may result from construction and maintenance of the project.

The estimated annual maintenance costs are \$2,000.

9. PLAN OF IMPROVEMENT AND PROJECT FORMULATION. - All improvements desired have been considered. As a result of the study, the East Anchorage Basin has been re-activated to a depth of 8 feet (see Paragraph 6) and 8.5 acres of additional anchorage has been authorized by the Chief of Engineers under authority of Section 107 of the River and Harbor Act of 1960. The remaining desired improvements were considered as described in the following paragraphs.

10. JETTIES. - The inner harbor is landlocked except its entrance from the outer harbor which is sheltered from all but southerly storms. The prevailing winds are from the south through the northwest in the summer and from the northwest in the winter, northwest winds being predominant on an annual basis. Southeast storms have the greatest effect on navigation but occur less frequently. Consideration has been given to raising the jetties. The west jetty project height is about 7 feet above mean low water. Due to the position and angle of this jetty to the damaging waves, it is thought very little, if any, reduction in wave action in the harbor would accrue from raising this jetty. The east jetty, which provides substantial protection to the lower harbor, has a project height of 10.5 feet above mean low water and has a length of 510 feet from shore. Consideration was given to raising this jetty above the present project height but it was found that a jetty to project height would protect the lower harbor during all storms, except hurricanes. The lower harbor is exposed to waves from the south through the 300-foot opening between the jetties which make it unsafe for small boats during severe storms. Additional protection could be provided by reducing the opening but this would make normal navigation more difficult and could result in greater vessel damages. Raising the east jetty would not substantially affect the wave action in the harbor, but it is considered that the loss of the existing jetty would result in substantially increased damages. It is, therefore, considered that the existing jetties should be maintained, but not extended or raised.

11. OUTER HARBOR. - It was recommended by local interests that a study be made of the cost and feasibility of a riprap jetty from Charles Island to Welch's Point, with suitable entrance passages. The resulting enclosures would be over a mile square and would furnish a harbor of refuge for Long Island Sound boating. An additional benefit would be the controlling effect on erosion of over a mile of Milford's most valuable shore line, which was evacuated three times in 1955. However, this would require a breakwater over a mile long from Charles Island northeastward to Welch's Point in water 18 feet deep for most of the distance, and would require building up the bar leading northwest from the island to shore, a distance of about 3,000 feet. This improvement would cost in excess of 4 million dollars. Although this project is physically possible from an engineering standpoint and might be desirable from a navigational point of view, it is not considered that the benefits of an outer harbor would, in any sense, be commensurate with the cost.

12. FISH AND WILDLIFE SERVICE BASIN. - Most of the basin dredged by the U. S. Fish and Wildlife Service lies shoreward of the Harbor Line. The Corps of Engineers has no authority to dredge shoreward of the Harbor Line, nor can the Corps assume the costs of maintenance of another agency's berth. Maintenance dredging of this area is considered to be the responsibility of the U. S. Fish and Wildlife Service and could be negotiated by them to best advantage at the time other dredging is being done in the area.

13. GULF POND AREA. - The Indian River (Gulf Pond) is crossed at the mouth by two fixed highway bridges with horizontal clearances of 80 and 88 feet and vertical clearances of 3 and 5.4 feet respectively above mean high water. Navigation in the Pond is limited to very small craft at about half tide or higher, and at low water the Pond is largely exposed flats where clams are dug. Navigation improvement is not considered feasible in this area, in view of the high cost of bridge alterations and of dredging that would be required.

14. COORDINATION WITH OTHER AGENCIES. - All Federal, State, and local agencies having interest in the improvement of Milford Harbor were notified of the public hearing held on 3 November 1955 at Milford, Connecticut, and have been consulted where pertinent to the study. Comments of the U. S. Fish and Wildlife Service on the construction of additional anchorage area concerned (1) a loss of a potential for future restoration of a seed-oyster producing resource as a result of dredging, and (2) elimination of some small wetland areas of local significance to waterfowl resulting from spoil disposal adjacent to harbor. These losses were outweighed respectively by the annual benefits resulting from the navigation improvement and by the benefits resulting from land enhancement and the economic advantage of spoil disposal on land rather than at sea.

15. LOCAL COOPERATION. - Local interests have accepted the recommended improvement authorized 13 February 1961 to provide additional anchorage, as meeting their needs and desires in the interests of navigation, and have been informed that the requirements of local cooperation as listed in Paragraph 8 above must be met when construction funds are made available.

16. CONCLUSIONS. - The survey study found that additional anchorage at Milford Harbor was warranted and as a result, the uncompleted and inactive East Basin anchorage has been re-activated for construction, and an additional anchorage of 8.5 acres 6 feet deep was authorized by the Chief of Engineers under the authority of Section 107 of the River and Harbor Act of 1960. Other locally desired improvements consisting of (a) raising the jetties to shelter the harbor; (b) constructing a breakwater to shelter the outer harbor; (c) dredging the Fish and Wildlife Service Basin; and (d) dredging an anchorage in Gulf Pond, were found to be unnecessary or unjustified. Local interests have indicated that the existing project as recently modified, when completed, would meet their needs.

17. RECOMMENDATION. - The Division Engineer recommends that no further modification of the Federal project for Milford Harbor, Connecticut be made at this time.

2 Incl  
1 - Map  
2 - Attachment -  
Additional Information  
Called for by Senate  
Resolution 148

SEYMOUR A. POTTER, JR.  
Brigadier General, U. S. Army  
Division Engineer





MILFORD HARBOR, CONNECTICUT

Information Called for by  
Senate Resolution 148, 85th Congress  
Adopted 28 January 1958

1. This study considered the adequacy of the present Federal navigation project and the economic justification of additional small boat navigation improvements at Milford Harbor, located on the north shore of Long Island Sound about 8 miles west of New Haven Harbor.

2. As a result of the study:

a. The Chief of Engineers, under the authority of Section 107 of the 1960 River and Harbor Act, authorized on 13 February 1961 the navigation improvement desired for Milford Harbor, providing for an additional 8.5 acres of anchorage area, 6 feet deep, on the west side of the inner harbor south of the City Wharf.

b. The Chief of Engineers, on 10 April 1961, re-activated the uncompleted East Basin but to a depth of 8 feet instead of the authorized (1902) 10 feet in view of the present navigation needs.

c. Consideration was given also to raising the jetties to shelter the harbor; constructing a breakwater to protect the outer harbor; dredging U. S. Fish and Wildlife Service Basin, and dredging an anchorage for pleasure boating in Gulf Pond. These desired improvements could not be justified by the benefits provided.

3. Local interests have accepted the additional 8.5 acres of anchorage as fulfilling their needs and desires in the interests of navigation and have been informed of the cash contribution and other requirements of local cooperation which must be met when Section 107 construction funds are appropriated by Congress to initiate construction of the Milford Harbor Project.

4. No further Federal navigation improvement beyond that authorized by the Chief of Engineers 13 February 1961 as described above, is necessary at this time.